

Amendments to the Claims:

Please amend Claims 1, 3 and 10 and cancel Claims 12, 16 and 75. This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1 1 (currently amended): An isolated nucleic acid encoding an Sitosterolemia
2 Susceptibility Gene (SSG) polypeptide, said polypeptide comprising an amino acid sequence that
3 is at least ~~about 70%~~ 75% identical to the full-length of an amino acid sequence as set forth in
4 SEQ ID NO:3, wherein said amino acid sequence comprises ~~a sequence selected from the group~~
5 ~~consisting of SEQ ID NO:5 and SEQ ID NO:6~~ an ATP-binding cassette (ABC) family sterol
6 transporter.

1 2 (previously presented): The nucleic acid of claim 1, wherein said polypeptide
2 specifically binds to polyclonal antibodies generated against a polypeptide that comprises an
3 amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:5 and
4 SEQ ID NO:6.

1 3 (currently amended): The nucleic acid of claim 1, wherein said polypeptide
2 comprises an amino acid sequence ~~selected from the group consisting of~~ as set forth in SEQ ID
3 NO:3, ~~SEQ ID NO:5 and SEQ ID NO:6.~~

1 4 (original): The nucleic acid of claim 1, wherein said polypeptide forms a dimer
2 with a second ABC polypeptide, and wherein said dimer exhibits sterol transport activity.

1 5 (original): The nucleic acid of claim 4, wherein said dimer is a heterodimer.

1 6 (original): The nucleic acid of claim 4, wherein said sterol is cholesterol.

1 7 (previously presented): The nucleic acid of claim 5, wherein said second ABC
2 polypeptide is ATP-Binding Cassette 8 (ABC8).

1 8 (previously presented): The nucleic acid of claim 1, wherein said nucleic acid
2 hybridizes under moderately stringent hybridization conditions comprising 40% formamide, 1M
3 NaCl, 1% SDS at 37°C and wash conditions of 1x SSC at 45°C to a nucleic acid comprising a
4 nucleotide sequence as set forth in SEQ ID NO:4.

1 9 (previously presented): The nucleic acid of claim 8, wherein said nucleic acid
2 hybridizes under stringent hybridization conditions comprising 50% formamide, 5x SSC, 1%
3 SDS at 65°C and wash conditions of 0.2x SSC, 0.1% SDS at 65°C to a nucleic acid comprising a
4 nucleotide sequence as set forth in SEQ ID NO:4.

1 10 (currently amended): The nucleic acid of claim 1, wherein said nucleic acid
2 comprises a nucleotide sequence at least ~~about 70%~~ 80% identical to the full-length of a
3 sequence as set forth in SEQ ID NO:4.

1 11 (previously presented): The nucleic acid of claim 1, wherein said nucleic acid
2 comprises a nucleotide sequence as set forth in SEQ ID NO:4.

12 (canceled)

1 13 (original): The nucleic acid of claim 1, wherein said nucleic acid is from a
2 mouse or a human.

1 14 (original): The nucleic acid of claim 1, wherein said nucleic acid is expressed
2 in the intestine or in the liver in the presence of an LXR agonist.

1 15 (original): The nucleic acid of claim 1, wherein said nucleic acid is expressed
2 in a tissue selected from the group consisting of liver, jejunum, ileum, and duodenum.

16 (canceled)

1 17 (original): An expression cassette comprising the nucleic acid of claim 1
2 operably linked to a promoter.

1 18 (original): An isolated cell comprising the expression cassette of claim 17.

1 19 (withdrawn): An isolated SSG polypeptide, said polypeptide comprising an
2 amino acid sequence that is at least about 70% identical to an amino acid sequence as set forth in
3 SEQ ID NO:1 or 3.

1 20 (withdrawn): The isolated polypeptide of claim 19, wherein said polypeptide
2 selectively binds to polyclonal antibodies generated against a polypeptide comprising an amino
3 acid sequence as set forth in SEQ ID NO:1 or 3.

1 21 (withdrawn): The isolated polypeptide of claim 19, wherein said polypeptide
2 comprises an amino acid sequence as set forth in SEQ ID NO:1 or 3.

1 22 (withdrawn): The isolated polypeptide of claim 19, wherein said polypeptide
2 forms a dimer with a second ABC polypeptide, and wherein said dimer exhibits sterol transport
3 activity.

1 23 (withdrawn): The isolated polypeptide of claim 22, wherein said dimer is a
2 heterodimer.

1 24 (withdrawn): The isolated polypeptide of claim 23, wherein said second ABC
2 polypeptide is ABC8.

1 25 (withdrawn): The isolated polypeptide of claim 22, wherein said sterol is
2 cholesterol.

1 26 (withdrawn): The isolated polypeptide of claim 19, wherein said polypeptide
2 is expressed in the intestine or in the liver in the presence of an LXR agonist.

1 27 (withdrawn): The isolated polypeptide of claim 19, wherein said polypeptide
2 is expressed in a tissue selected from the group consisting of the liver, jejunum, ileum, and
3 duodenum.

1 28 (withdrawn): The isolated polypeptide of claim 29, wherein said polypeptide
2 is from a mouse or a human.

1 29 (withdrawn): An antibody generated against the isolated polypeptide of
2 claim 19.

1 30 (withdrawn): An isolated SSG polypeptide, said polypeptide comprising an
2 amino acid sequence selected from the group consisting of SEQ ID NO:5 and SEQ ID NO:6.

1 31. (original) A method of making an SSG polypeptide, the method comprising:
2 (i) introducing a nucleic acid of claim 1 into a host cell or cellular extract; and
3 (ii) incubating said host cell or cellular extract under conditions such that said
4 SSG polypeptide is expressed in the host cell or cellular extract.

1 32. (original) The method of claim 31, further comprising recovering the SSG
2 polypeptide from the host cell or cellular extract.

1 33 (withdrawn): A method of identifying a compound useful in the treatment or
2 prevention of a sterol-related disorder, said method comprising contacting an SSG polypeptide
3 with a test agent, and determining the functional effect of said test agent upon said polypeptide,
4 wherein a functional effect exerted on said polypeptide by said test agent indicates that said test
5 agent is a compound useful in the treatment or prevention of said sterol-related disorder.

1 34 (withdrawn): The method of claim 33, wherein said sterol is cholesterol.

1 35 (withdrawn): The method of claim 33, wherein said polypeptide comprises an
2 amino acid sequence that is at least about 70% identical to an amino acid sequence as set forth in
3 SEQ ID NO:1 or 3.

1 36 (withdrawn): The method of claim 33, wherein said polypeptide is present in
2 a cell or cell membrane.

1 37 (withdrawn): The method of claim 33, wherein said polypeptide is bound to a
2 heterologous ABC polypeptide, forming a heterodimer.

1 38 (withdrawn): The method of claim 33, wherein said functional effect
2 comprises an increase in the sterol transport activity of said polypeptide.

1 39 (withdrawn): The method of claim 33, wherein said functional effect
2 comprises a physical interaction between said test agent and said polypeptide.

1 40 (withdrawn): The method of claim 39, wherein said physical interaction is
2 detected using a direct binding assay.

1 41 (withdrawn): The method of claim 33, wherein said sterol-related disorder is
2 sitosterolemia.

1 42 (withdrawn): The method of claim 33, wherein said sterol-related disorder is
2 selected from the group consisting of hypercholesterolemia, hyperlipidemia, gall stones, HDL
3 deficiency, atherosclerosis, and nutritional deficiencies.

1 43 (withdrawn): A method of identifying a compound useful in the treatment or
2 prevention of a sterol-related disorder, said method comprising contacting with a test agent a cell
3 that expresses or is capable of expressing an SSG polypeptide, and determining the functional
4 effect of said test agent upon said cell;

5 wherein a functional effect exerted on said cell by said test agent indicates that
6 said test agent is a compound useful in the treatment or prevention of said sterol-related disorder.

1 44 (withdrawn): The method of claim 43, wherein said sterol is cholesterol.

1 45 (withdrawn): The method of claim 43, wherein said SSG polypeptide
2 comprises an amino acid sequence that is at least about 70% identical to an amino acid sequence
3 as set forth in SEQ ID NO:1 or 3.

1 46 (withdrawn): The method of claim 43, wherein said compound produces an
2 increase in the expression of an SSG gene that encodes said SSG polypeptide.

1 47 (withdrawn): The method of claim 46, wherein said increase in the expression
2 of said SSG gene is detected by detecting the level of SSG mRNA in said cell.

1 48 (withdrawn): The method of claim 46, wherein said increase in the expression
2 of said SSG gene is detected by detecting the level of SSG polypeptide in said cell.

1 49. (withdrawn): The method of claim 46, wherein said increase in the
2 expression of said SSG gene is detected by detecting the level of SSG protein activity in said
3 cell.

1 50 (withdrawn): The method of claim 43, wherein said compound modulates the
2 level of sterol transport activity in said cell.

1 51 (withdrawn): The method of claim 50, wherein said sterol transport activity in
2 said cell is detected by detecting the rate of sterol efflux in said cell.

1 52 (withdrawn): The method of claim 51, wherein said sterol is cholesterol.

1 53 (withdrawn): The method of claim 46, wherein said increase in the expression
2 of said SSG gene is mediated by LXR or RXR.

1 54 (withdrawn): The method of claim 43, wherein said sterol-related disorder is
2 sitosterolemia.

1 55 (withdrawn): The method of claim 43, wherein said sterol-related disorder is
2 selected from the group consisting of hypercholesterolemia, hyperlipidemia, gall stones, HDL
3 deficiency, atherosclerosis, and nutritional deficiencies.

1 56 (withdrawn): A method of treating or preventing a sterol-related disorder in a
2 mammal, said method comprising administering to said mammal a compound that increases the
3 level of expression or activity of an SSG polypeptide in a plurality of cells of said mammal.

1 57 (withdrawn): The method of claim 56, wherein said sterol is cholesterol.

1 58 (withdrawn): The method of claim 56, wherein said sterol-related disorder is
2 sitosterolemia.

1 59 (withdrawn): The method of claim 56, wherein said sterol-related disorder is
2 selected from the group consisting of hypercholesterolemia, hyperlipidemia, gall stones, HDL
3 deficiency, atherosclerosis, and nutritional deficiencies.

1 60 (withdrawn): The method of claim 56, wherein said compound produces a
2 decrease in the amount of dietary sterol that is absorbed in said mammal.

1 61 (withdrawn): The method of claim 56, wherein said compound produces a
2 decrease in the amount of sterol that is retained in the liver of said mammal.

1 62 (withdrawn): The method of claim 56, wherein said compound is identified
2 using the method of claim 33 or 43.

1 63 (withdrawn): The method of claim 56, wherein said compound causes an
2 increase in LXR or RXR activity within cells of said mammal.

1 64 (withdrawn): A method of prescreening to identify a candidate therapeutic
2 agent that modulates SSG activity in a mammal, the method comprising:
3 providing a cell which comprises an SSG polypeptide; and
4 a test compound; and
5 determining whether the amount of sterol transport activity in said cell is
6 increased or decreased in the presence of the test compound relative to the activity in the absence
7 of the test compound;
8 wherein a test compound that causes an increase or decrease in the amount of
9 sterol transport activity is a candidate therapeutic agent for modulation of SSG activity in a
10 mammal.

1 65 (withdrawn): The method of claim 64, further comprising a secondary step,
2 wherein said test compound is administered to a mammal, and the absorption of dietary sterol in
3 said mammal is detected.

1 66 (withdrawn): A method of inducing the expression of an ABC gene in a
2 mammalian cell, said method comprising increasing the level of LXR or RXR activity in said
3 cell.

1 67 (withdrawn): The method of claim 66, wherein said ABC gene encodes a
2 protein that is involved in the transport of a sterol.

1 68 (withdrawn): The method of claim 67, wherein said ABC gene is selected
2 from the group consisting of SSG, ABC1 and ABC8.

1 69 (withdrawn): The method of claim 67, wherein said sterol is cholesterol.

1 70 (withdrawn): The method of claim 66, wherein said LXR or RXR activity is
2 increased by administering an LXR or RXR agonist to said cell.

1 71 (withdrawn): The method of claim 66, wherein said cell is present in a
2 mammal.

1 72 (withdrawn): The method of claim 66, wherein said cell is a liver, intestinal,
2 or kidney cell.

1 73 (withdrawn): An isolated nucleic acid comprising at least one nucleotide
2 sequence selected from the group consisting of exon 1 (SEQ ID NO:7), exon 2 (SEQ ID NO:8),
3 exon 3 (SEQ ID NO:9), exon 4 (SEQ ID NO:10), exon 5 (SEQ ID NO:11), exon 6 (SEQ ID
4 NO:12), exon 7 (SEQ ID NO:13), exon 8 (SEQ ID NO:14), exon 9 (SEQ ID NO:15), exon 10
5 (SEQ ID NO:16), exon 11 (SEQ ID NO:17), exon 12 (SEQ ID NO:18) and exon 13 (SEQ ID
6 NO:19).

1 74 (withdrawn): The isolated nucleic acid sequence of claim 73, further
2 comprising at least one intron.

75 (canceled)

1 76 (previously presented): The nucleic acid of claim 1, wherein said amino acid
2 sequence is at least about 90% identical to said amino acid sequence set forth in SEQ ID NO:3.

1 77 (previously presented): The nucleic acid of claim 1, wherein said amino acid
2 sequence is at least about 95% identical to said amino acid sequence set forth in SEQ ID NO:3.